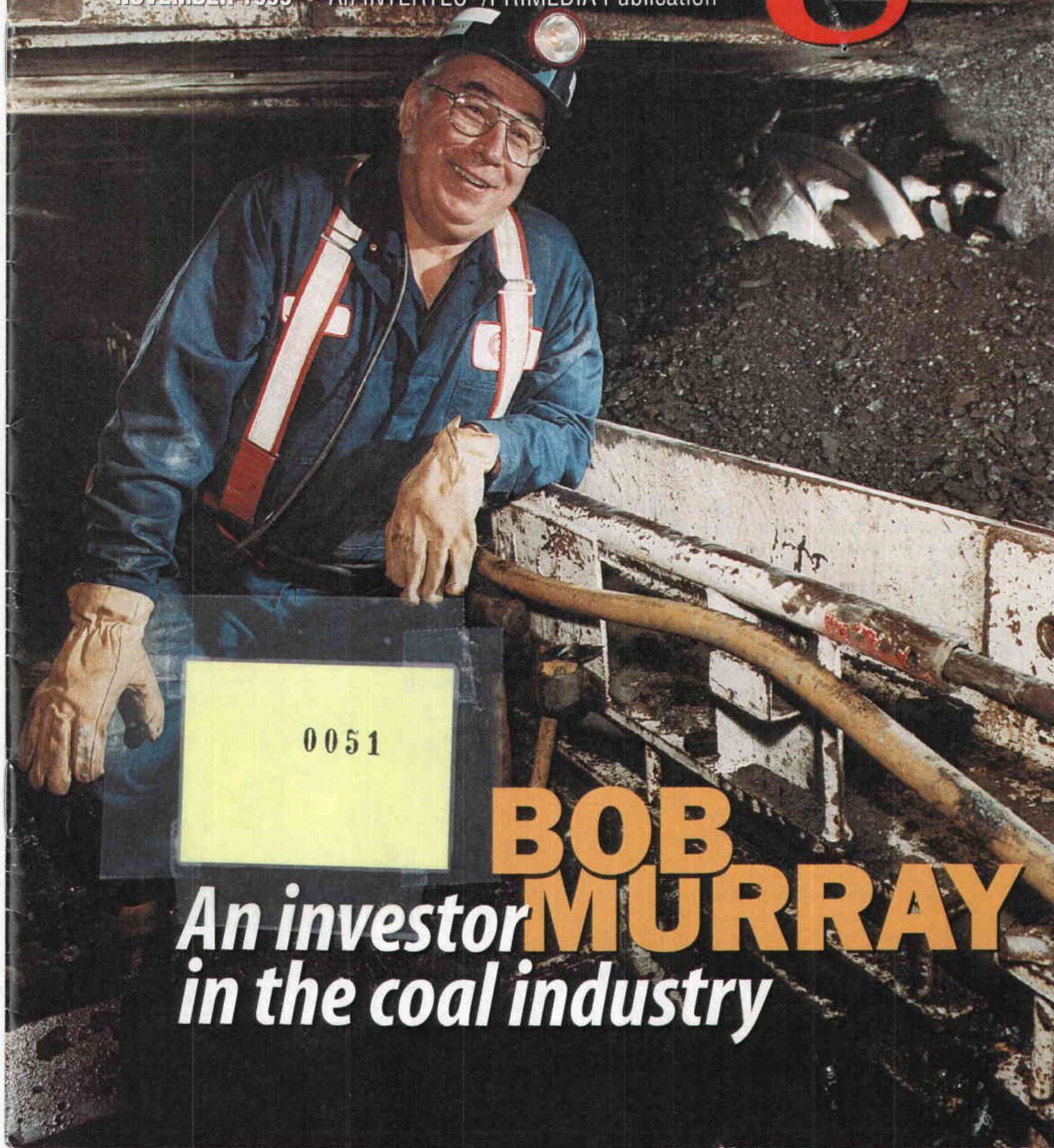


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**BOB
MURRAY**

*An investor
in the coal industry*

He's a maverick, but he has something to say

BY ART SANDA /
ASSOCIATE PUBLISHER / EDITOR

It is not our habit to single out an individual as the subject of an editorial. In fact, we never have (in this context, the Goring of America does not apply). But in producing this year's Corporate Profile, the individual is so much the company, and the company so much the individual, that an exception is being made. In the annual Corporate Profile, the senior editors of *Coal Age* spend considerable time taking a company apart in an attempt to depict to the reader what makes it tick. With the Bob Murray organization, beginning on page 27, that meant getting into the individual as much as getting into the company.

Robert E. Murray is many things to many people, not the least of which is a bit of a maverick in today's corporate world. Among other things, Mr. Webster tells us, a maverick is a person who acts independently. That certainly describes Bob Murray and his management philosophy. People of that ilk win few popularity contests outside their immediate circles. As personified by Murray, broadly speaking, there are two sides to such individuals—the tough, no quarter asked, no quarter given business side and the personal side that is the Ying to that Yang; the side that has a dedication to the industry and to the people they employ. And there are so too few of them.

That side of Murray, and the handful like him, is a throw back to another era when the elite of American business, commerce, and politics imbued into the next generation not only an inherent right to lead the people due to their positions of wealth and influence, but an obligation to do so. The Kennedy's, saints or sinners, heroes of harlots, had it. The Bushes have it. And Murray has it. He calls it loyalty. Not the loyalty of the employee to the company, but the loyalty of the company to the employee.

Loyalty, the quality of being loyal, of being faithful. That goes beyond adhering to the letter of the law, beyond a paycheck. It often is asked of employees today; seldom, it seems, is it given. All too apparently, it is perceived as being old fashioned, an anachronism in today's whirlwind of consolidations and downsizings. Such loyalty, as Murray cautions in his comments, is not to be confused with paternalism, the governing of a group in the manner of a father. Loyalty of the company to the employee is not the cradle-to-the-grave corporate largess some had envisioned; rather it is, or should be, the mutual trust that once was prevalent, but appears to have been lost in what one scribe dubbed the "mindless pursuit of numbers."

Murray expresses it differently. To him, his brand of loyalty means that employees know "our relationship is for a lifetime. I tell them," he said, "my goal is for you to work here until retirement because that will mean you will have worked safely—and worked, period—and made it to retirement." That's not paternalistic, that's pragmatic. It's not a guarantee of a job, it's a commitment that, as long as the job is being done, the company will do everything on its part to ensure that job is there. It also implies doing the job to the standards set by the company.

We seem to have lost that somewhere along the way, that commitment, that loyalty. We're not alone, of course. The same lament is heard in virtually all industries, but in particular, in old-line industries such as ours with a history of monogamous employment, even from one generation to the next. It once was commonplace to hear, "We're an Eastern family," or a Consol family, or a Peabody family. Nostalgia? Perhaps. Unrealistic? Maybe to some, even most. But unarguably, it was a reflection of mutual loyalty, or at least the perception of mutual loyalty.

Inevitably, whether a corporate giant or an entrepreneur, virtually without exception, somewhere during what seemingly has been a thousand interviews over the years, from the bottom of the shaft to the top of the house, it will be said: "It is our people that make the difference. They are our most important asset." But are they? Or are they one of the necessary resources to get the raw material out of the ground and to the marketplace? If they are the nameless, faceless "people," then the answer is self-evident. If they are not, if they are more than that, then a better job has to be done in conveying that to them, and in a meaningful way.

"Coal," Murray says, "is my life, not a financial opportunity." He's a maverick all right, but a maverick with something to say to which more people should be listening. CA

Art Sanda / Editor



"Robert E. Murray is many things to many people, not the least of which is a bit of a maverick in today's corporate world."



Starting with nothing, **BOB MURRAY** has built *something*

October 15, 1987, was Bob Murray's last day as president and CEO of North American Coal Corp., and the first day of the rest of a life dedicated, almost consumed, to building himself into a 22-million-ton-per-year (tpy) producer, making him the largest independent individual coal operator in America.

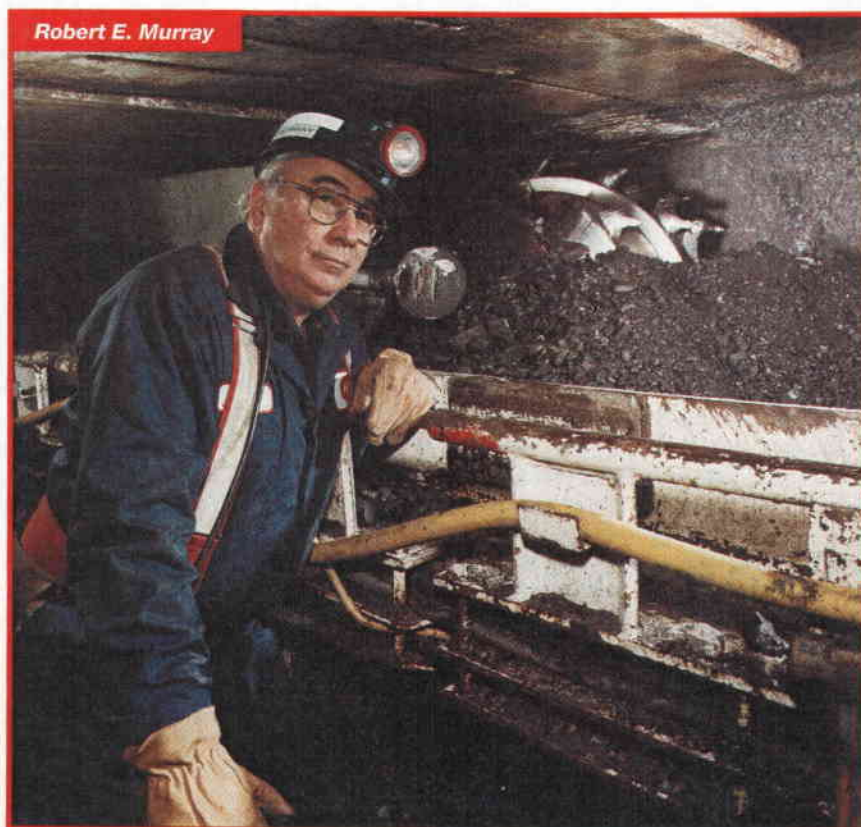
BY ART SANDA /
ASSOCIATE PUBLISHER / EDITOR

To those who know him, personally or by reputation only, Murray is a driven individual, one who expects those around him to be driven as well. He has strong convictions, with a sense of destiny, an unabashed flag waver who flies the black and white MIA flag on company staffs, and is a person who can be brutally candid; a combination that puts his supporters and detractors at opposite extremes. As with he himself, there is no middle ground; it's love or hate, admiration or disdain. Where the former see only bravado, the latter see bravery. Unarguably, in today's corporate world, he is unique.

At his core are two concepts: The personal belief that everything is possible if the will is strong—"What the guys in our companies call my 'indomitable will.' *Everything is Doable* will be on my tombstone."—and that loyalty transcends all else; not the loyalty of the employee to the company, but the company's loyalty to the employee.

"My career at The North America Coal Corp. began with a scholarship when I was 16 years old," Murray recalled, "and ended 31 years later when someone to whom I didn't even report told me only these words: 'This is your last day; you're done.' In retrospect, it was the best thing ever to happen to me career-wise, and many said that I should have begun building my own coal company 15 years earlier. Parting company with North American Coal was very difficult, but it was the nudge I needed to go on, to reach down within myself, to use my knowledge, experience, and energy to build something new.

"There were many nay-sayers in the beginning. All we started with was knowledge and talent. No capital, not the best reserves, not the best mines. The people who bet against us were right to do so. All I know is coal mining, and once you are president and CEO of a major coal company, no one is going to hire you; you're either



Robert E. Murray

THE AMERICAN COAL SALES CO.

The American Coal Sales Co. is the marketing and sales arm of much of the production from the Murray mines, although some coal is sold directly by individual mining companies to customers.

Headquartered in Lexington, Ky., American Coal

Sales comes under President B.J. Cornelius, with Vice Presidents Ed Lane and Bill Hollars, Manager of Transportation Eddie Moses, and Account Executive Rob Murray. Bob Murray also is active in the sales area.



a successor risk or a tenure risk. It was either get out of the coal business, or get back into it on my own. For 11 and a half years we haven't stopped building and never have looked back."

Today, his companies combined—"Decentralized almost to the extreme," said Murray—puts them within the top five underground producers in the country and makes Murray the largest independent individual producer, having more than a billion tons of reserves, eight large underground and two smaller surface mines producing more than 22 million tons of coal annually, and employing 2,300 people. As such, Murray said his organization in recent years has been a serious player in any acquisition situation within the industry and, in fact, has been among those who have looked at most of the properties involved in the major ownership changes that have taken place or are pending.

Murray sets a frenetic pace. He regularly works 18 hours a day, often sleeps at one of his three offices or company guest houses at the operations, and gives as his mailing address N1515H, the tail number on his Cheyenne 400LS turbo-prop airplane. Frequently at his side as he visits different operations is his wife of 32 years, Brenda.

Often, Murray is asked why he does it, why the super human effort? "I tell them, because of those 2300 people. They are depending on me and the success of these companies for their jobs, for the security of their families. It's called loyalty of the company to the employee.

"I preach that corporate loyalty in orientation and awareness meetings that we conduct; it's why we never lose anyone unless we want to lose them. They know our relationship is for a lifetime. I tell them: 'My goal for you is to work here until retirement, because that will mean you have worked safely — and worked, period — and made it to retirement.' When I hire people, I take responsibility for them and their families very seriously; not in a paternalistic way, but in a personal way. When I get paternalistic, then it will be time for me to retire. The people know, when the chips are down, I'll be there for them. That's why I'm able to attract extremely talented people."

Murray's management philosophy and mode of operation are as unorthodox as is the man himself. A self-described "scavenger," Murray built his companies from properties in which others saw little or limited value, equipped them with machinery others were discarding, and staffed them for the most part with veterans of the industry—a good number of key executives have a history with Murray back to North American Coal—who either subscribed or learned to subscribe to his belief of the involvement of the employee in his operation.

He personally participates in "awareness" or "empowering" meetings where mine management shares with the workforce details of the respective company's operating problems and costs, financial statements, sales contracts and the coal qualities the customers demand, and mining plans and future prospects of the operation. "No doubt our employees sometimes don't like to hear what I tell them, but they know I am telling the truth—and they know that I deeply care about them."

In the beginning, to form The Ohio Valley Coal Co., Murray bought the Powhatan No. 6 mine from North American Coal Corp. in May 1988 with a loan guaranteed by the mine's major customer and a personal loan—"Brenda and I mortgaged everything but my small pension." With this, he also financed the purchase of Doan Mining Co. in Pennsylvania (now Energy Resources Inc.), without which there would have been no deal.

Starting at 47 years old and \$66 million in debt, the companies today mine coal in Ohio, Pennsylvania, Kentucky, and Illinois; operate river/truck/rail terminals on the Monongahela and Ohio rivers; rebuild longwalls and other underground equipment, as well as diesel equipment, in West Virginia; and own additional coal properties there and in Utah, as well as in states with operations. And while the debt today is many times higher, none of it is through high-yield, or "junk bonds," or other risky vehicles employed today, Murray said. "All our debt is within coal sales. It's strictly debt covered by the cash flows from our existing coal contracts, which is unique in the coal industry today. We're

fiscally conservative, but very aggressive from operations and marketing standpoints."

At the time of the 1988 acquisition, Ohio Valley's Powhatan No.6 mine was a continuous miner operation. "In 1989 we knew that we had to have a longwall to be competitive, and we had no money, no longwall, no longwall permit, no longwall crews, and but a few management people with any longwall experience. In July, we said we would be longwalling by Christmas, a feat that normally requires up to two years. At 10:30 p.m., January 13, my birthday, we ran our first longwall coal and, in that first year, our people twice set longwall production records for the industry. Today, we're capable of mining more than 5 million tpy."

But there was another problem. Ohio Valley also was landlocked, and Murray realized that all the markets then for high sulfur coal were on the Ohio River, which was 16 miles away. "All we had was rail. So, at the time of the acquisition, I purchased 19 acres of land on the Ohio River associated with North American Coal's old Powhatan No. 1 mine."

Only 12 days after receiving his first order for barge-loaded coal on the river, Murray had an inventive transloading system in place. "Today, the Powhatan Transportation Center is one of the most comprehensive blending and totally intermodal transloading facilities in the country. Last year we moved 4 million tons of coal through that harbor. 'Indomitable will,' that's what they say we have; we willed that first coal into the barge."

Murray attributes those and other successes to two things: **commitment and dedication**. The decision making process to which he holds, in order of priority, is it right:

1. By God;
2. By the family;
3. By our lenders;
4. By our customers;
5. By our employees;
6. By the regulatory people;
7. By the landlords; and,
8. By the public in general?

"Generally, decisions are made down that tree. I'll be 60 in January. Over the years I have been shot at, burned in effigy, and slugged and gone through circumstances of every sort, but that decision making process has held me in good stead so far." It's a process he encourages in others as well.

The respective companies are separately managed and financed. Some have union-represented workforces and some are union-free. The unionized companies are very separated from the others organizationally. The union operations operate under contracts with the United Mine Workers of America (UMWA) based on the national agreement with certain provisions agreed necessary for those mines to remain in operation. All operations provide wages and benefits competitive to local circumstances, Murray said. "Each of the companies provides the highest wages and best

scheduled around planned longwall or power moves, and all available hands perform well-coordinated maintenance blitzes, with all the necessary materials and supplies spotted ahead of time, Murray said.

"Each operation develops its own shift schedules keeping in mind the total cost of a man-shift versus benefit and wage costs, as well as capital costs. In instances where benefits are less costly, a mine manager would want to avoid overtime whenever possible. Where the cost of benefits are high, he would want employees to work safely as many shifts as possible. Additionally, the capital costs of coal mining, together with depressed markets, make it absolutely essential that the mines are manned for operations or maintenance every available shift, 21 shifts a week, depending on individual circumstances. This is especially true of longwall mines with their inherent high capital costs. Mine management in all the companies appreciate this and work their schedules accordingly."

"indomitable will"

benefits they are capable of supporting. They are in highly competitive, tough coal markets. Irrespective of whether an operation is unionized or union-free, the words that define the relationship between management and all employees are 'mutual trust', which together with 'and be bold' is our motto."

Each of the companies is autonomous in its operation, though they all reflect the Murray philosophy of dedication, employee involvement, imaginative shift scheduling where applicable, and the universal application of rebuilt used equipment; of 2,000 longwall shields owned, 25 were purchased new. Typically, most mines operate around the clock, seven days a week, with change outs taking place at the face. Maintenance, including conveyor belt work, is

essential that the mines are manned for operations or maintenance every available shift, 21 shifts a week, depending on individual circumstances. This is especially true of longwall mines with their inherent high capital costs. Mine management in all the companies appreciate this and work their schedules accordingly."

Murray is a strong proponent of changing shifts at the face. "First, particularly with a seven-day-a-week operation, the section is never left unattended, which adds to mine and employee safety; no gas build up, no combustion issues, no roof problems, etc. And, second, it improves efficiency, especially at mines with long mantrip times. The idea is to optimize schedules to maximize the productivity of the crews, the mine equipment, and maintenance. The same applies to preparation plants."

PLANS FOR SUCCESSION

Perceived correctly as the driving force behind his companies, there had been some concern of succession in the event of his incapacitation. In response to that, Murray has put in place a seven-man group comprised of senior executives, two of whom are executors of his estate, that would function as a management committee.

Murray also delights in telling of the involvement of his and Brenda's three sons in the business. "We truly are blessed. Robert, 26, is a mining engineer with foreman experience who is an account executive in the American Coal Sales Co. entity. Jonathan, 25, and Ryan, 21, both have mining experience and are in geology and mining engineering studies, respectively, at West Virginia University."

While satisfied he has prepared his organization for the future, Murray said he is more concerned with what has been taking place within the industry, citing in particular tight margins, a lack of planning for future liabilities, and investors of opportunity.

"I'm really worried about the coal industry. This is the most depressed market we've ever

had when compared to the costs of production; the tightest margins I've seen in 43 years. While it sometimes is easy to get into the coal business, some are finding that it's impossible to get out due to legacy costs—employee related liabilities, reclamation liabilities, already-invested capital, and debt service. At the same time, unfortunately, some coal companies are being operated today to achieve cash flows only to cover their current cash costs, without any provision for closing cost liabilities, debt service, or profits.

"In the 1970s, the oil industry invested heavily in the coal industry. While the jury still is out as to whether that was a good thing, we do know that the oil companies were committed to coal and acquired those coal properties with the intention of operating them and generating cash to fund debt service.

"Today, we now have a group of entrants into the coal industry—Wall Street financiers—who strictly are short term players and have no commitment to the long term survival or to the investment image of the industry. They are overpaying for properties, generally by a factor of two, for every recent coal company acquisition of which we have knowledge. The future of the

ACQUISITION STRATEGY

According to Murray, his companies have successfully combined growth and profitability. "Management has demonstrated the capacity to manage operations under a variety of conditions and to recognize and capitalize on opportunities when presented. The strategy has been to acquire coal reserves with the following characteristics:

- High quality;
- High mineability and economic competitiveness;
- Strategy and location;
- Integration of existing operations; and
- Fair price, including consideration of reclamation and employee-related liabilities.

"The companies are very skilled at quickly evaluating these factors to determine the value of a property and its competitiveness in not only today's, but the foreseeable coal marketplace."

THE OHIO VALLEY COAL CO.

Powhatan No. 6 Mine
Belmont County, Ohio

Acquired May 1988 from North American Coal
345 hourly, 118 salaried employees
7 days, 24 hours
3 8-hour production shifts
2 weekend warrior crews
Production: 5 million tpy
Productivity: 48 tons per man-day (tpmd)

Reserves

13,422 coal acres, 72.5 million tons
Pittsburgh No. 8 seam (56 to 64 inches)
Preparation Plant (1,600 tpy)

Jeffrey jig, cyclones
Recovery 65%

Quality

Calorific value: 12,550 Btu/lb, sulfur: 4.13%,
ash: 8.5%, and moisture: 5.5%

Transportation

110-car unit train loadout
Rail, truck, barge (Ohio River)

Major Customers

Allegheny Power System
Cinergy Corp.
American Electric Power Service Co.
First Energy

Mining Equipment

Two longwalls, overlapping
2 Joy 7-LS shearers
Panels 900 ft by 11,500-13,500 ft.
3 continuous miner sections
4 Joy 12CM12 continuous miners
9 Joy10SC32 shuttle cars
6 EIMCO dual-boom bolters
6 Simmons Rand scoops
48-, 54-, and 60-inch Continental Conveyor hardware and Scandura belting

Ohio Valley

industry is not important to them. These Wall Street financiers have an exit strategy at the time they concoct their schemes and acquire those properties. They package the coal properties in some form, using high yield junk bonds, initial public offerings, inventive partnerships, etc., and exit early, pulling their cash out. Of course, the ultimate investors, the pension funds, insurance companies, and even Mom and Pop, are going to get stuck with worthless paper. This is very bad for the coal industry.

"Unlike our companies, and those others who are committed to the coal industry who retire debt from coal we mine and sell, from cash flow, some investors keep alive companies and properties that should have died; keeping coal supply too high for demand and further depressing coal prices. When the ultimate investors in the financing schemes being utilized find out that a property is not worth the price they paid, it will cause severe damage to the coal industry, particularly in financing new activities.

"Another thing, it may well be that I don't understand the role of some coal traders and brokers and those who would market coal as a commodity and create futures and other new marketplaces for coal, but due to quality differentials, geographic locations, and varying production and transportation costs, coal never can be made into a real commodity. Besides, as a producer, if I control the source of coal, and you control the market for coal, in my judgment, there is no need for anyone else to be in the business who only will siphon off cash in the name of risk management. The risk management process can be inserted into any contractual arrangement between the controller of the coal source and the affiliated market."

Murray is well known for his activism in and

his support of the coal industry, as well as his involvement in the political process. "The federal government is the greatest enemy I have in creating jobs in the most depressed areas of the country." Standard bearer or critic, Murray insists it is his concern for the industry, not Bob Murray, that causes him to take strong stands in its defense. "While I know there may be some resentment for what I say, someone has to speak out relative to the very damaging and accelerating financial and governmental trends in the industry. It's stronger than a trend; we are looming on catastrophe. As a fourth generation coal miner, with three sons who will make the fifth, I want to be known as a good coal miner and an investor; one who deeply cares about the coal industry.

"Recent years have been great times in which to sell coal companies, and I probably missed that opportunity, but I never intended to sell. I have a commitment to my family and our employees, and I am going to fulfill that commitment to the best of my ability. To me, coal is my life, not a financial opportunity.

"Our growth is a matter of what opportunities come along. I pay a fair price, but I will not over-pay for the sake of growth. Generally, we are value-added people, scavengers of properties not attractive to others, either due to reserves, infrastructure, facilities, unfunded liabilities, union representation, or markets. Through experience, commitment, and pure hard work, we add value to those properties. Some people say we already have been very successful. When we began in 1988, I had a planning horizon of 2005. For me, I'll take stock and add up the score at that time, and then we'll see just how successful we've been. One thing I do know, at a minimum either we will be virtually debt free, and about the same size we are now, or we will have more debt and be considerably larger. It makes no difference, it just depends on the opportunities that arise."

OHIO VALLEY COAL

The Ohio Valley Co. was the acorn of the Murray organization. At the time of the 1988 acquisition, its Powhatan No. 6 mine employed 292 people and produced slightly more than 1 million tpy. Today it employs 500 people and produces 5 million tpy.

John Forrelli is vice president of Ohio Valley, and Mark Bartkoski is general manager and superintendent of Powhatan No. 6. According to Bartkoski, the 5 million tpy is centered around the mine's longwall, employing a Joy 7-LS shearer. "When we put the Joy 7-LS on our longwall, there were only three of them in operation in the country; and Joy still was on a learning curve, but the machine has proven to be an excellent piece of equipment. The old 4-LS just didn't have the backbone to cut the hard coal we have. With the change, we went from 31

feet per minute (fpm) to 41- to 42-fpm cutting rates."

The shearers were bought new, the shields were not. "We have a different approach when it comes to shields," Bartkoski said. "Some companies go very high tech, very automated; we have standardized on the Dowty shield with MS-31 electrics. We wanted a good, reliable shield that we could count on for a 24 hour-a-day, 7-day-a-week production schedule."

To maximize up time, Powhatan No. 6 has two complete sets of face equipment, which allows the overlapping of the longwall moves. Six days before a panel is completed, the new panel is started concurrently. "Typically," Bartkoski said, "tonnage is reduced 60% as the panel is screened, and on start up you lose 40% as you work out the bugs. Putting those together on panel completion and start-up, you achieve full production. By tying the overlap concept into our operating plan, we have a very consistent production rate for our customers, and we save 150,000 tons that normally would have been lost with every longwall move."

Bartkoski said rebuilt used equipment operated at Powhatan No. 6 runs about 40% to 60% of the cost of new, but he doesn't believe anything is compromised in its application. "With shields having an expected operating life of 50,000 to 60,000 cycles, we start monitoring them very closely at around 40,000 cycles," he said.

Their shearer rebuild criteria is to rebuild at the end of every panel, which Bartkoski offers may seem a little excessive. "However, since we only idle the longwall every 15 shifts to move power, our preventative maintenance time is very limited. When we do shutdown for a power move, the five hours that it takes obviously is a very critical time to our success."

Continuous miners are expected to produce 1.2 million tons before rebuild, and shuttle cars, scoops, and roof bolters are rebuilt every three years. Bartkoski said that: "While others may prefer to purchase their used equipment from the shop after refurbishing, we prefer to buy the used equipment and then have a shop refurbish it, while we monitor the process very closely and customize it to our needs.

"Additionally, we must have very reliable equipment. When the longwall is down, we lose \$200 per minute. On the continuous miner units, downtime costs \$50 a minute. Those costs mandate the importance of maintaining equipment, having it rebuilt properly to begin with, and involving our workforce in preventing all possible losses."

POWHATAN TRANSPORTATION CENTER

A company-owned shuttle train runs 16 miles from Powhatan No. 6 mine to the Powhatan Transportation Center, a totally intermodal port

THE OHIO VALLEY TRANSLOADING CO. The Powhatan Transportation Center Powhatan Point, Ohio

Ohio River Mile Post 110.8
50+ acres acquired in 1988 from North American Coal Corp.
5 hourly, 2 salary employees
10-hour-plus shift, six days
4 million tpy
13,000 tpd
3,000 tph
Coal, other bulk materials
Blending
110-car unit train, bottom-dump
150-ton capacity truck dump
Unit train loading at 2,500 tph
200,000+ tons ground storage
Vibratory feeder
Two 48-inch Continental conveyors
JB Long automatic sampler
Diesel electric generators
Barge loading/unloading
Berth 60 full, 30 empty barges
Robert E. Murray 804 hp harbor tug

Powhatan



Bob Murray operates two river loading facilities. Pictured above is the harbor tug named for his wife, Brenda L. Murray, at the Mon Valley Transportation Center on the Monongahela River.

CANTERBURY COAL CO.
DiAnne Mine
 Armstrong County, Pa.

Acquired July 1998
 188 hourly, 54 salary employees
 2 10-hour production shifts, 7 days a week
 Production: 2 million tpy
 Productivity: 54 tpmrd

Reserves

28,371 coal acres, 143 million tons
 Lower Kittanning seam (40 to 54 inches)
Preparation Plant (600 tph)

Jeffrey jig, centrifuges
 Recovery 67%

Quality

Calorific value: 12,400 Btu/lb,
 sulfur: 1.6%-2.1%, ash: 10%-12%,
 and moisture: 6% (or less)

Transportation: truck, rail

Major Customers

Keystone Generating Station
 Homer City Generating Station
 Conemaugh Generating Station
 Pennsylvania Power & Light
 Industrial coal consumers

Mining Equipment

Room and pillar method with one
 synchronous super section
 4 Joy 114CM-9 continuous miners
 1 Joy 14CM15 continuous miner
 4 Joy 21SC shuttle cars
 1 Long-Airbox continuous haulage
 4 Fletcher dual-boom roofbolters
 4 Voest Alpine mobile roof supports
 36-, 42-, and 48-inch Continental
 Conveyor belt systems

facility at Mile Post 110.8 on the Ohio River; proving, Murray said, that rail can compete with trucks on short hauls.

All 122 company-owned railcars were purchased used. According to Coal Traffic Manager Bob Visnic: "When we started the trains in 1991, we leased the cars for a couple of years, and then bought our own. The 100-ton cars were purchased and reworked for about \$16,000 each. We unload 110 bottom-dump cars and 150 trucks on a typical day."

The normal 13,000 tons of coal per day is loaded directly into barges. On days the train does not run due to maintenance, the facility can handle up to 500 trucks. It has 200,000 tons storage capacity, 50,000 of which is live. With the barge-mounted clamshell, the center also can off-load non-coal cargoes, such as crushed stone and limestone, as well as coal for blending purposes.

Utilizing its 804-hp harbor tug, the Robert E. Murray, the facility has handled as many as 60 loaded barges at a time, but it is more geared to 30 full and 30 empty barges. According to Visnic: "If we have good cooperation from the railroad, we can dump a train in six hours. The delays we experience are mostly people-related, the changing of crews, inspection of the train, the locomotive, etc."

**MON VALLEY
 TRANSPORTATION CENTER**

Many miles to the east, in Glassport, Pa., sits the Mon Valley Transportation Center Inc., a 33-acre coal transfer terminal located at Mile Post 19.3 on the Monongahela River. Here, coal

**MON VALLEY TRANSPORTATION
 CENTER INC.**
 Glassport, Pa.

Monongahela River Mile Post 19.3
 Acquired August 1995 from Glassport
 Transportation Center
 19 hourly, 3 salary employees
 8- to 12-hour shifts, 5-6 days a week
 1.5 million tpy
 Rail/truck/barge dumping, loading
 1,000 hp Brenda L. Murray harbor tug
 Berth 24 full, 12 empty barges
 33 acres
 1 1/4 miles river front
 5 rail sidings, 250 car capacity
 75,000-plus tons ground storage
 1,200 hp locomotive
 75-ton hopper
 2 feeders for blending
 3 42-inch Continental Conveyors
 2 hydraulic excavators
 1 radial stacker
 4 rubber tired loaders
 1 dozer
 3 dump trucks
 1 Bobcat
 1 Thurman truck scale
 1 fuel truck
 2 500-kw diesel generators

is transferred from barges, railcars, and trucks to ground storage for blending and re-loading and, with a new conveyor system to come online, from barge to barge.

"About 75% of our coal comes in by barge, and the largest part of it goes out by barge," said John Bartoletti, president. "We handle standards, stumbos, and jumbos employing our own harbor tugboat, the Brenda L. Murray, and we unload at least four unit trains a month, each with 90 cars. With continuing improvements we

Canterbury

Mon Valley

PENNAMERICAN COAL L.P.
Burrell Mine
Indiana County, Pa.

Opened July 1997
 53 hourly, 9 salary employees
 1-2 10-hour production shifts, 5-6 days
 Production: 500,000 tpy
 Productivity: 60 tpm/d

Reserves

7,482 coal acres, (50 to 52 inches)
 Upper Freeport seam 13.3 million tons
 Lower Freeport seam 11.1 million tons

Preparation

Screened, shipped raw

Quality

Calorific value: 11,100 to 11,300 Btu/lb.
 sulfur: 3.7%, ash: 17% to 21% (average
 19%), and moisture: 6% (or less)

Transportation: Trucked raw

Major Customers

Homer City Generating Station,
 Conemaugh Generating Station

Mining Equipment

Room and pillar, 2 sections
 2 Joy 14CM-9 continuous miners
 6 Joy 21SC shuttle cars
 2 Fletcher dual boom roof bolters
 36-, 42-, and 48-inch Continental
 Conveyor hardware
 Dual 1,000 tpm screens

are making to our five sidings, we can store 250 rail cars in the yard.

In addition to the Mon Valley terminal, there are six mining operations in Pennsylvania.

CANTERBURY COAL

"At the time of its acquisition in June 1998, our DiAnne mine was spread out in all directions and we have had as many as four

continuous miner sections operating at once," explained John Goroncy, president of Canterbury Coal Co. "We're working hard to concentrate and streamline the mine. We presently operate two sections seven days a week; a supersection and an attached continuous haulage section installed in July.

"Our conditions are not conducive to long-wall mining, but they sure are ideal for continuous haulage, to which we are converting. Because of our seam height, we only can load 4.5 to 5 tons on a shuttle car. Where we can run only 1,500 tons per unit shift (tpus) off the shuttle car sections, with continuous haulage we expect to do up to 2,000 tpus.

"Though our employees still are on a learning curve, we see much potential for continuous haulage here. If our expectations are met, we will be converting to continuous haulage on the other sections, perhaps running as many as three units. That depends a great deal on sales. The mine should produce more than 2 million tpy next year."

In addition, Goroncy said four Voest Alpine mobile roof supports are on order that will be used in pillaring with supersections and the sections being developed with continuous haulage. They also are removing a bottleneck with an investment of \$750,000 to refurbish the main slope, replacing the 38-inch belt with 48-inch belt as they mine. "By next July, we will be out of the old side of the mine and into the newly rehabilitated side. This will reduce the mine by half and enable us to be concentrated in one area," Goroncy said.

Working in a relatively low seam height, a continuous miner operator loads coal at Canterbury Coal Co. The mine makes extensive use of continuous haulage systems.

PENNAMERICAN COAL

Continuous haulage also is being introduced at PennAmerican Coal L.P.'s Burrell mine. Presently, the mine operates two continuous miner sections with shuttle cars. "We're an up and down operation, depending on the markets," said Mine Superintendent Kevin Hughes.

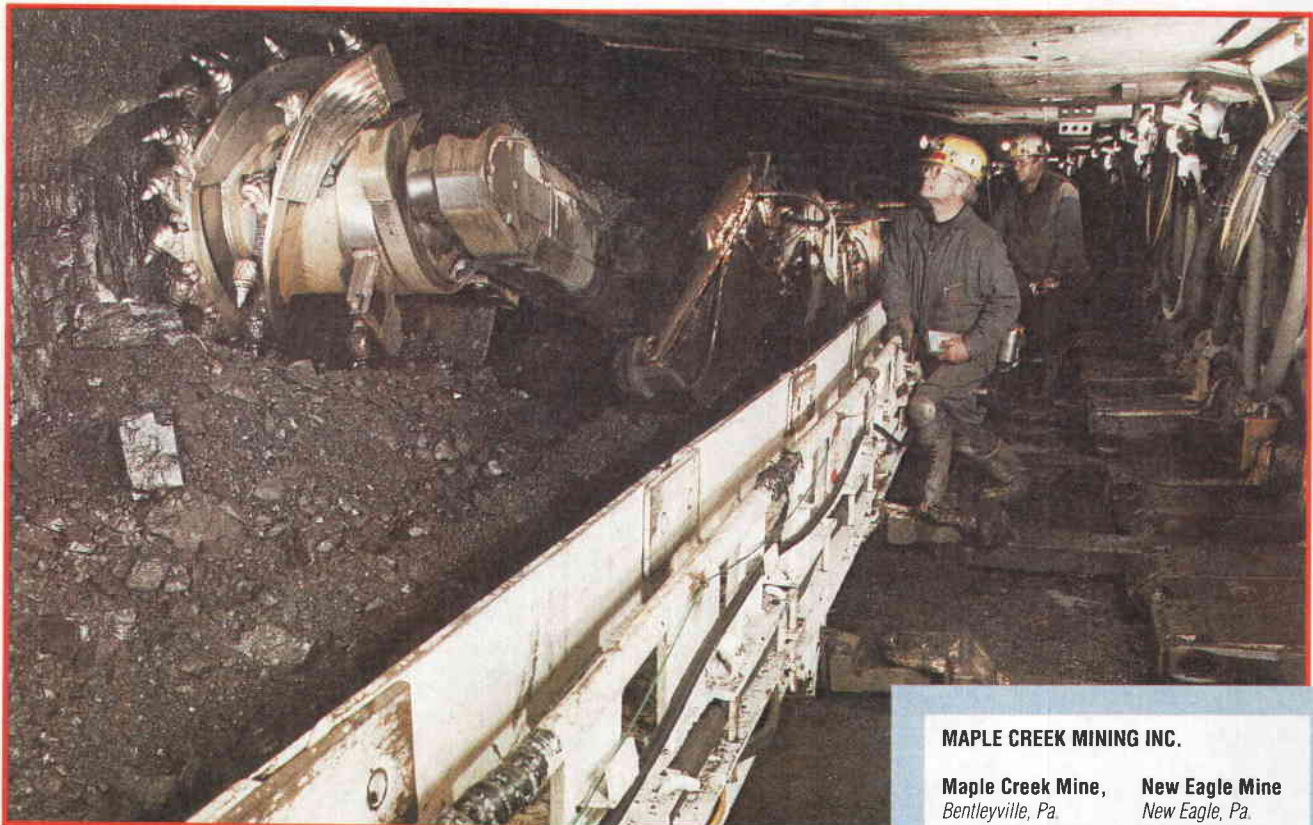
Burrell is a box cut mine, punching in from a highwall and descending on a 10% grade, making brake changes on vehicles almost a daily event. "We have the first, maybe the second, Pennsylvania-approved Brookville rubber-tired diesel tractor coming in this week, and plan another for next year," Hughes said. "We expect it to be a real workhorse on mantrips, supplies, grading roads, etc."

Presently, coal is trucked to a storage site up the hill from the mine. When a new dual-screen installation is in place there, the coal will be belted 550 ft to what will be a new coal handling facility. The screen now being used at the mine mouth will be moved to the new site and used to capture a middlings product.

MAPLE CREEK MINING

Maple Creek Mining Inc. operates the Maple Creek (or Spinner Shaft) mine, which employs a longwall and two continuous miner sections on three shifts, six or seven days a week. Maple Creek also has the New Eagle mine, with two continuous miner sections, which provides low-sulfur blending coal with which to achieve the critical quality specifications of the company's metallurgical coal customers. New Eagle also operates six or seven days a week.





A shearer operator cuts coal on the longwall at the Maple Creek mine. Using the longwall and two continuous miner sections, Maple Creek produced more than 3 million tpy last year.

Maple Creek was purchased from U.S. Steel Mining Co. LLC in June 1995 after 18 months of planning and discussions. It produces coal for both the metallurgical and steam markets.

According to Mine Manager Lynn Shanks, Maple Creek is challenged not only by the market, but also by culture and mining conditions, both natural and man-made from previous mining. "We operate between old mines, and, the way the reserves are laid out, we can't develop far enough ahead because all our longwall panels are short, some of them with 500-ft faces, 1800 ft deep. In addition, our move distances vary from 5,000 ft to 6 miles.

"Next year we'll mine 3 million tpy clean and have five longwall moves. There is no sweet spot in our reserves, though we do have another reserve adjacent for which we currently are developing a new slope. To get into that, we have to generate the cash flow here, but then that will be our sweet spot, the New Century mine."

Coal from that new mine will travel up a slope, across a 9,000-ft overland conveyor over rough terrain, and down into the Hazel Kirk slope of the Maple Creek mine. The coal will travel via 12 conveyor flights four miles through the mine and outside to the plant. Refuse from the plant will continue to be taken back underground by belt for two miles to a vertical belt that takes it to the refuse site.

"The New Century mine is to be up and oper-

ating before 2002," Shanks said, "It will be in the same Pittsburgh No. 8 seam, but the coal will be higher, the sulfur lower, and the quality of the coal better than that being mined today."

ENERGY RESOURCES

Near DuBois, Pa., Energy Resources Inc. operates six active jobs, or faces—one cross ridge and five contours—with fleets of bulldozers, endloaders, and rock trucks. In cross ridge mining, multiple seams are mined by cutting through a section of ridge up to a mile in length. Its sister operation, TDK Coal Sales Inc., operates three contour mining faces.

Where Energy Resources uses predominantly Caterpillar (CAT) equipment, TDK employs Komatsu Mining Systems (KMS) machinery, explained President Pete Vuljanic. "While their performance is about equal, the Komatsu dozers, which are slightly newer, have a higher component life and their operating costs per hour are less. Their fleet availability also is better, 95% vs. 87% on average."

Overall, Energy Resources and TDK Sales mine at an 18:1 strip ratio. About 60% of the overburden is removed by trucks and 40% with dozers. When cast blasting is employed, that changes to 55% and 35%, respectively. Contract augering is done at both sites.

Their product is shipped raw to 14 different customers through the Brandy Creek Processing Center, along with some outside

MAPLE CREEK MINING INC.

Maple Creek Mine,

Bentleyville, Pa.
Acquired June 1995
from US Steel
339 hourly, 83 salary
24 hours, 7 days
3 10-hour shifts
Production: 3 million tpy
Productivity: 26 tpm

Reserves

16,152 coal acres
21.2 million tons
Pittsburgh No. 8 seam
64 to 80 inches
(Average: 67 inches)

Preparation Plant (900 tph)

Sand treated media, cyclones
Blend raw at plant
Blend clean at Mon Valley Trans. Center
Recovery 68%

Quality

13,500-13,900 Btu/lb
Sulfur: 1%-1.8%
Ash: 5%-7%
Moisture: 5%
Belted to plant

Major Customers:

Clairton Coke Works
Shenango Inc.
Allegheny Power

Mining Equipment

1 longwall
2 sets of equipment
2 continuous miner
(CM) sections
2 Joy 12CM15
6 Joy 21SC32B
shuttle cars
4 Fletcher dual-boom roofbolters
54-inch Continental
Conveyor belt
system

New Eagle Mine

New Eagle, Pa.
Opened 1996

44 hourly, 12 salary
24 hours, 7 days
3 10-hour shifts
Production: 3 million tpy
35 tpm

791 coal acres
1.5 million tons
Pittsburgh No. 8
64 to 80 inches
(Average: 67 inches)

Preparation Plant

(900 tph)
Sand treated media, cyclones
Blend raw at plant
Blend clean at Mon Valley Trans. Center
Recovery 68%

Same
Sulfur: 1%
Ash: 7%
Moisture: 5%
Belted to plant

Various met
and steam coal
consumers

Room and pillar
2 CM sections
1 development
1 pillaring (retreat)
2 Joy 12CM12
6 Joy 21SC32B
shuttle cars
4 Fletcher dual-boom roofbolters
4 Fletcher MRS's
48-inch Continental
Conveyor system

Maple Creek



Energy Resources uses a cross-ridge technique to produce more than 400,000 tpy.

ENERGY RESOURCES INC.

Elk County, Pa.

Acquired 1988 from North American Coal Corp.
31 hourly, 6 salary employee
2 10-hour shifts, 5 days
Production: 400,000 tpy
Productivity: 41 tpm

Reserves

10,500 coal acres, 5.8 million tons
Lower, Middle, Upper Kittanning
Upper and Lower Freeport
8 active faces
Stripping ratio 18:1
2 contract mines, 2 ash repositories

Major Customers

Industrial coal burners
Major and smaller utilities
Cement plants

Mining Methods & Equipment

Cross-ridge mining,
contour, augering
Limited cast blasting
2 CAT D-POL dozers
2 CAT D-11N dozers
1 CAT D-10N dozer
7 CAT 777A&B 85-ton haulers
3 CAT 992C loaders
1 WA600 Komatsu loader

BRANDY CAMP PROCESSING CENTER

Elk County, Pa.

10 Employees, 1 10-hour shift
Rail (50 cars a day)/truck loadout
Blended, shipped raw

Quality

Calorific value: 12,500-13,000 Btu/lb
Sulfur: 1.5%-2%
Ash: 10%-12%
Moisture: 6.5%

TDK COAL SALES INC.

Armstrong County, Pa.

Acquired 1999 from TDK Coal Sales Inc.
14 hourly, 1 salary employees
1 10-hour shift, 5 days
150,000 tpy
40 tpm

900 coal acres, 1.5 million tons
Lower Kittanning, Clarion
Lower and Upper Freeport
3 active faces
Stripping ratio 14:1

Contour mining

Overburden blasting
3 Komatsu 375 dozers
3 Komatsu 475 dozers
2 773B CAT haul trucks
1 WA700 Komatsu loader
3 WA500 Komatsu loaders

Trucked raw

12,400-13,000 Btu/lb
Sulfur: 1.2%-2.2%
Ash: 8%-10%
Moisture: 6.5%

purchased coal, depending on market. Refuse scalped from the coal is sent for a loading fee to an independent power producer.

The rail loadout at Brockway is to be expanded from a 7,000- to 17,000-ton storage capacity to enable them to flood load or load in motion. Trains presently are loaded two to three days a week.

Both Energy Resources and TDK Coal Sales have operations close to markets. "With many of our working faces in five different coal seams, quality can be custom-blended without washing," Vuljanic said.

KENAMERICAN RESOURCES

KenAmerican Resources Inc., with about 90 million tons of recoverable reserves, operates the Paradise mine near Central City, Ky. Described as a very productive mine, Paradise ships about 1.5 million tpy of its 1.9 million tons to the Tennessee Valley Authority's (TVA) Paradise power plant. When necessary, President Don Gentry said he adjusts his production to fit market needs. "But the mine never has had a layoff," he emphasized.

Unlike all the other operations, Paradise works two 9-hour production shifts five days a week, performs maintenance on the third shift and weekends, and does not change out at the face. "It's different," Gentry said, "but it works."

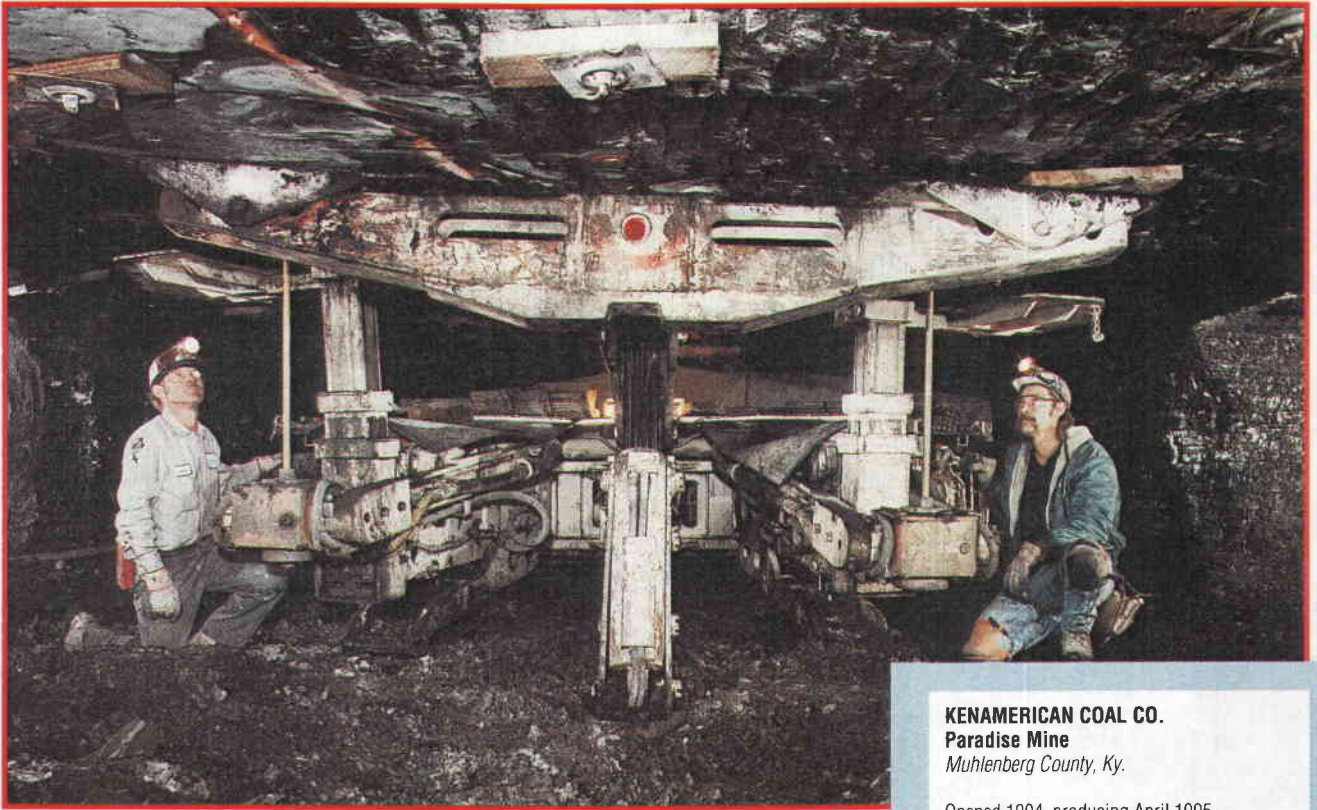
The operation of their supersections also has a different twist. "We don't use miner helpers per se," Mine Superintendent Bobby Gibson said. "What makes our system so efficient is that the foreman, the two continuous miner operators, and one shuttle car operator have hand-held communications between them. When the operator on the right finishes, he calls his buddy and tells him to go ahead. The extreme right shuttle car operator helps the miner operator move from point A to point B, and the other shuttle car operators and the bolters follow the action."

With the production and availability of equipment running at 98%, Gibson and Gentry said there is no justification for switching to diesels or continuous haulage, despite the fact that no pillaring is done due to subsidence concerns.

"Our operating style is a bit different, and so too is our management style," said Gentry. "When we have a good month in safety, in production, and costs, we fire up the grills outside and have a cookout at the end of the shifts. It's part of our team building, a demonstration of our appreciation for jobs well done. And it works."

AMERICAN COAL CO.

There are no grills outside the American Coal Co.'s Galatia mine office in southern Illinois, but there is a cafeteria style waiting room with continuous coffee and microwaves, a clean-



KenAmerican roofbolters pin the top at the Paradise mine in Muhlenberg County, Ky.

side, dirty-side shower room, a laundry room for company-furnished work clothes, an exercise room, a multi-media training room, and offices more akin to corporate America than a coal mine. Exterior buildings include a shop as large as that at a big surface mining operation—as well as having a fully-equipped underground shop—a mine rescue center, and a plant capable of processing more than 8 million clean tpy.

"That's our contracted sales for next year, 8.3 million tons," said Maynard St. John, general mine manager. "We're scheduled to do 6.8 million clean tons this year."

Galatia operates four or five continuous miner sections, and two longwalls; all feeding onto two stacked 48-inch slope belts. "Because of this, we were having 40 to 60 overload shut-downs a shift when we were running well. We did not shut down the slope belts, but rather sequenced off an inby belt to reduce the load on the slope belts. We couldn't get another lump of coal on the belts, and upgrading all inby belts was not an option without spending megabucks to replace everything," St. John said.

"So we increased the capacity of each of the dual slope belts from approximately 1,350 to 2,200 tpy by increasing the system's horsepower, changing the speed reducers and pulley dimensions, and increasing the counter weights. All this work was performed in only 9 days each during longwall moves last March and April."

The mine had been operating in both the No. 5 and No. 6 seams, but lack of market for the higher sulfur No. 6 seam caused previous owners to put all the equipment in the No. 5 seam, with the coal from the southeast section of the mine dumping onto the No. 6 belt. The mine is bisected by the Galatia Channel.

On its way to the plant, the slope belt rises at 17.9° for 2,000 ft, flattens out for another 2,000 ft, and rises again for 1,200 ft. "It is a very steep slope and controlling the product on the belt is difficult at times," St. John said.

At the same time, the prep plant underwent a major expansion and equipment upgrade, adding a second complete coarse coal circuit and increasing capacity from 1,500 tpy to 2,150 tpy. "The most we have done so far is 2,000 tpy in a 24-hour period," President Don Gentry said. "But we are recovering more fines on the same raw material. We have two raw products and we can produce high- and low-sulfur blends. The north section of the mine runs 0.9% sulfur and the east about 1.6%."

The Galatia mine operates three production shifts a day, with maintenance conducted when there is an idle section, during belt moves, and during longwall moves. "We do not schedule maintenance daily," St. John said. "When we know we will be making a power move, we schedule the vulcanizers, the slope, belt roller, and breaker station work, and prep plant maintenance; we attack everything."

**KENAMERICAN COAL CO.
Paradise Mine
Muhlenberg County, Ky.**

Opened 1994, producing April 1995
116 hourly, 19 salary employees
2 9-hour production shifts, 5 days
Production: 2-2.5 million tpy
Productivity: 55 tpm

Reserves

19,800 coal acres, 90 million tons
No. 9 seam (52 to 58 inches)

Transportation: Trucked raw

Quality: Calorific value: 10,200-10,400
Btu/lb, sulfur: 3.8%-4.2%, ash: 18%-19%,
and moisture: 10%

Preparation

Vibrating scalping screen
Coalscan continuous ash analyzer
Two 22-cu-yd front-end loaders
2 150-ft radial stackers
125,000 tons ground storage

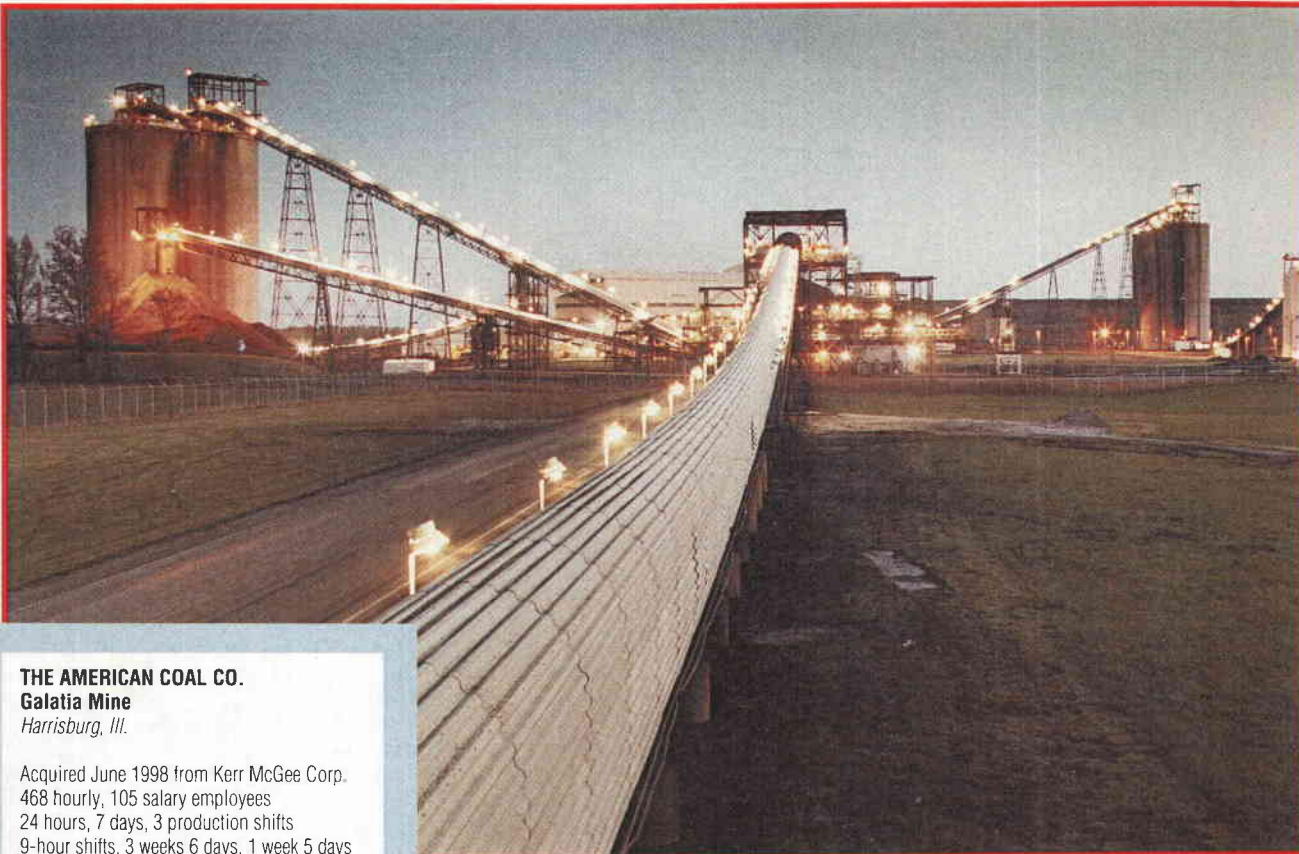
Major Customers

Tennessee Valley Authority
West Kentucky Energy

Mining Methods & Equipment

2 modified supersections
4 Joy 14CM15 continuous miners
8 Joy 10SC32 shuttle cars
4 Fletcher dual boom roof bolters
6 Simmons Rand 488 scoops
Wallace diesel mantrip
Alpha Resources personnel carriers
42-inch Continental Conveyor belt systems
48-inch Continental Conveyor
and K&K belt systems

As with Murray's other companies, the majority of Galatia's equipment is bought used. "If you buy a new set of shields, you pay \$15 million," St. John explained. "We bought 140 shields for \$300,000 total, then put \$2.8 million into rebuilding them. They will last 40% to 45% as long as new shields, but at 20% of the cost."



THE AMERICAN COAL CO.
Galatia Mine
 Harrisburg, Ill.

Acquired June 1998 from Kerr McGee Corp.
 468 hourly, 105 salary employees
 24 hours, 7 days, 3 production shifts
 9-hour shifts, 3 weeks 6 days, 1 week 5 days
 2 weekend warrior shifts
 Production: 6.9 million tpy
 Productivity: 44 tpm

Reserves

16,900 coal acres, 125 million tons
 Harrisburg No. 5 seam
 50 to 72 inches (Ave. 66 inches)

Preparation Plant (2,100 tph)

Heavy media cyclones
 400,000 tons raw coal storage

Transportation

Unit train loadout

Quality: Calorific value: 12,100 Btu/lb,
 sulfur: 0.5%-1.94% (ave. 1.4%), ash: 7%,
 and moisture: 11%

Transportation: 110-car unit train loadout

Major Customers

Peabody Coal, Union Electric, Mississippi
 Power, Tampa Electric (TECO), Georgia Power,
 and Tennessee Valley Authority (TVA)

Mining Methods & Equipment

2 longwalls (both operating)
 Joy 4-LS9 and Joy 4-LS5 shearers
 4 development sections
 6 Joy 14CM9 continuous miners
 18 Jeffrey Ramcars
 6 Fletcher crawler-mounted, dual-
 boom roofbolters
 8 Getman shield haulers
 48-inch FMC slope structure
 48-inch conveyor belts

"We conserve cash whenever possible,"
 Gentry said.

ANCHOR REBUILD

With their penchant for used equipment,
 almost to the exclusion of new equipment,
 the addition of a rebuild shop was inevitable.

Recently upgraded, American Coal Co.'s Galatia prep plant processes more than 2,100 tph.

That came with the acquisition of Anchor
 Construction Co. in 1996, now Anchor
 Longwall and Rebuild Inc., in Wheeling,
 W.Va.

But the name has become a misnomer.
 Today longwall projects make up about 65%
 of the work performed at Anchor, and President
 Bruce Hill said they have reached a new level
 as a full-service rebuild shop, going well beyond
 its longwall name.

"Anchor presently performs approximately
 60% of the longwall rebuild work for our com-
 panies. Just as with the work we do for out-
 side customers, Anchor must compete on a
 bid basis for that internal work against other
 rebuild shops. And we have lost some jobs.
 However, we are proud of the strides we have
 made in 1999 tied to engineering capabilities,
 quality, scope of work performed, and cost
 reductions."

Hill estimates the shop's pricing on rebuild-
 ing equipment runs 30% to 35% below that
 of OEMs, and production time is half. Currently,
 85% of their work is for Murray companies. "I
 would hope we attain a balance of 70% inter-
 nal and 30% external," Hill said.

Currently, Anchor employs 21 technicians,
 four management, one administrative, and one
 part-time purchasing agent. It operates two 9-
 hour shifts, with plans for adding a third shift.
 They also plan to open satellite operations in
 the Illinois-Kentucky area, which would make

the Galatia and KenAmerican operations more
 accessible for their services. "Our objective,"
 Hill said, "at Bob Murray's directive, is to have
 50 to 60 people total in Wheeling, and then to
 look at geographic expansion. We're half way
 there, and we want to phase up quickly, but
 with quality."

A sister operation housed in the same com-
 pound is involved in the rebuild of diesel equip-
 ment, employing seven people under John
 Pawlish. While a modest operation now, activity
 is expected to increase as more diesel equipment
 is employed underground and more work is
 undertaken on surface diesel equipment. **CA**

ANCHOR LONGWALL AND REBUILD
 Wheeling, W. Va.

Acquired 1996 from Anchor Construction Inc.
 21 hourly, 6 salary employees
 2 9-hour shifts, 6 days
 3 acres
 9 welding machines
 1 computerized burning machine
 1 20-ton crane
 1 10-ton crane
 Assorted 2-5-ton cranes
 1 hydraulic testing stand
 Various machines, drill presses, lathes, etc.
 75-ton press
 Network software system

American

Anchor